WHAT IS CLAIMED IS:

1. A magnetic resonance imaging apparatus, comprising:

an RF coil unit which generates RF pulses toward a subject, and which receives an MR signal from the subject;

gradient magnetic field coils which generate a gradient magnetic field for slice selection, a gradient magnetic field for phase encoding and a gradient magnetic field for frequency encoding, respectively;

an arithmetic unit which generates image data on the basis of the MR signal; and

a sequence controller which controls the second gradient magnetic field coils in order to generate flow pulses for dephasing or rephasing a spin of a blood flow within said subject, in the same direction as that of the phase encoding gradient magnetic field.

2. A magnetic resonance imaging apparatus according to claim 1, wherein the flow pulses are flow compensation pulses or flow spoiled pulses.

3. A magnetic resonance imaging apparatus according to claim 1, wherein said sequence controller controls the third gradient magnetic field coils in order to generate other flow pulses in the same direction as that of the frequency encoding gradient magnetic field.

4. A magnetic resonance imaging apparatus

according to claim 3, wherein the first-mentioned flow pulses are flow compensation pulses, and the other flow pulses are also flow compensation pulses.

5. A magnetic resonance imaging apparatus according to claim 3, wherein the first-mentioned flow pulses are flow spoiled pulses, and the other flow pulses are also flow spoiled pulses.

6. A magnetic resonance imaging apparatus according to claim 3, wherein the first-mentioned flow pulses are flow spoiled pulses, and the other flow pulses are flow compensation pulses.

7. A magnetic resonance imaging apparatus according to claim 3, wherein the first-mentioned flow pulses are flow compensation pulses, and the other flow pulses are flow spoiled pulses.

8. A magnetic resonance imaging apparatus according to claim 1, wherein said sequence controller controls the first gradient magnetic field coils in order to generate a slice encoding gradient magnetic field in the same direction as that of the slice selecting gradient magnetic field.

9. A magnetic resonance imaging method, comprising the steps of:

generating RF pulses toward a subject, together with a gradient magnetic field for slice selection;

generating a gradient magnetic field for phase encoding;

generating a gradient magnetic field for frequency encoding;

generating flow pulses for dephasing or rephasing a spin of a blood flow within the subject, in the same direction as that of the phase encoding gradient magnetic field;

receiving an MR signal from said subject; and

generating image data on the basis of the MR signal.

10. A magnetic resonance imaging method according to claim 9, wherein the flow pulses are flow compensation pulses or flow spoiled pulses.

11. A magnetic resonance imaging method according to claim 9, wherein other flow pulses are generated in the same direction as that of the frequency encoding gradient magnetic field.

12. A magnetic resonance imaging method according to claim 11, wherein the other flow pulses are flow pulses of the same type as that of the first-mentioned flow pulses.

13. A magnetic resonance imaging method according to claim 11, wherein the other flow pulses are flow pulses of a type different from that of the first-mentioned flow pulses.

14. A magnetic resonance imaging method according to claim 9, wherein a gradient magnetic field for slice encoding is generated in the same direction as that of

the slice selecting gradient magnetic field.

15. A magnetic resonance imaging method, comprising the steps of:

executing a prep scan by a first pulse sequence which includes flow pulses for dephasing or rephasing a spin of a blood flow within a subject, together with RF pulses, a gradient magnetic field for slice selection, a gradient magnetic field for phase encoding and a gradient magnetic field for frequency encoding, the flow pulses of the first pulse sequence being generated in the same direction as that of the phase encoding gradient magnetic field;

determining a condition of said flow pulses on the basis of an MR signal which has been acquired by the prep scan; and

executing an imaging scan by a second pulse sequence which includes flow pulses corresponding to the determined condition, together with the RF pulses, the slice selecting gradient magnetic field, said phase encoding gradient magnetic field and the frequency encoding gradient magnetic field, the flow pulses of the second pulse sequence being generated in the same direction as that of said phase encoding gradient magnetic field.

16. A magnetic resonance imaging method according to claim 15, wherein in said second pulse sequence, a gradient magnetic field for slice encoding is

generated in the same direction as that of said slice selecting gradient magnetic field.

17. A magnetic resonance imaging method according to claim 15, wherein a time integral value of intensities of said flow pulses is included among conditions of said flow pulses.

18. A magnetic resonance imaging method according to claim 15, wherein distinction between a rephase type and a dephase type of said flow pulses is included among conditions of said flow pulses.

19. A magnetic resonance imaging method according to claim 15, wherein said first pulse sequence is repeatedly executed with alterations of conditions of said flow pulses.